

UNIVERSITY OF LOUISIANA AT LAFAYETTE
Lafayette, Louisiana

FILE NO. 09061

PROPOSAL FOR FURNISHING

ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SUPERVISION, PERMITS, ETC. NECESSARY TO REPLACE CHILLERS AT BUILDING 34 AT THE NEW IBERIA RESEARCH CENTER, LOCATED ON THE UL LAFAYETTE CAMPUS, NEW IBERIA, LOUISIANA

NOTE: A pre-bid meeting will be held at 9:30 AM on March 23, 2010 at New Iberia Research Center, Ackal Hall Auditorium, New Iberia, LA, at which time details of the specifications will be discussed.

Proposals will be received up to **2:00PM April 8, 2010** by the Purchasing Office, University of Louisiana at Lafayette, Lafayette, Louisiana. Proposals will not be received after this specified hour and date. At this time, the proposals will be publicly opened and read in the Purchasing Office, Room 123, Martin Hall, 104 University Circle, on the University Campus.

This is a *Competitive Sealed Bid*; bids SHALL be submitted in a sealed envelope. Complete details for submitting bid, etc. are contained in the attached INSTRUCTIONS TO BIDDERS.

Bid must be received by the due date and time in the Purchasing Office at the University of Louisiana at Lafayette, 104 University Circle, Martin Hall, Room 123, Lafayette, LA, 70503. Bid is to be in a **SEALED ENVELOPE with the BID NUMBER and DUE DATE ON THE OUTSIDE OF THE ENVELOPE.**

All inquiries regarding this request shall be directed to:

Ms. Roxanne Jones-Jenkins
New Iberia Research Center
UL Lafayette, New Iberia, LA
(337) 482-0301

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TO: University of Louisiana at Lafayette
Purchasing Office, Martin Hall Room 123
104 University Circle
P O Box 40197
Lafayette LA 70504 0197
Fax – 337-482-5059

To Whom It May Concern:

Attached is the completed proposal of the firm listed below. The undersigned certifies that he/she (or they) has/have carefully examined *the Instructions to Bidders, the General Conditions, and the Specifications* hereto attached and made part herein, and agrees to comply with the instructions, conditions, and specifications, as covered by the attached papers. On the basis of the specifications, the undersigned proposes to furnish any or all items listed in the schedule of items hereto attached, upon which prices are requested, and at the price stated for each item.

Firm Name

Signature [By signing this bid, bidder certifies compliance with
La. R.S. 38:2212(A)(1)(c) or RS 38:2212(0)]

Address

Name (Printed)

City, State, Zip Code

Title

Telephone No. including area code

Date

Fax No. including area code

LOUISIANA CONTRACTOR'S NO.

INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS

1. **SUBMITTAL OF PROPOSALS:** The bidder must submit his/her proposal on the form herein provided. The proposal must be signed in ink with, with the blank space(s), filled in for each and every item. The bidder must state the UNIT price (written in ink or typewritten) for which he/she proposes to furnish each item and shall show the total amount for each item based on the quantities shown. Telephone and telegraphic quotations WILL NOT be accepted.

Each change or correction must be clearly marked and initialed by bidder. Failure to comply with these requirements may cause your bid to be disqualified.

The proposal shall be submitted in a sealed envelope with the due date and file no clearly written on the exterior. The envelope shall then be sealed and delivered to the Purchasing Office, University of Louisiana at Lafayette, Lafayette, Louisiana, before the time set for receiving proposals as entered on the front sheet hereof. Any envelope, any sample or package, etc. should refer to the File No. and Due Date.

Proposal received after the time set will be returned to the bidder unopened.

Proposal may be rejected for additions, conditions, or alternate bids, not called for, for incomplete bids, or for failure to comply with requirements set forth.

No bids may be withdrawn after opening date and hour shown on cover sheet and quoted prices shall be firm for a minimum of thirty (30) days unless otherwise specified by the University or the bidder.

2. **SPECIFICATIONS:** Wherever standard Louisiana specifications are specified in any quotation, all bidders must comply with these specifications. Specifications other than standard specifications are to be considered as setting a standard of quality suitable to permit competition and to coincide as far as possible with commercial standards of goods generally sold on the market.

Bidder must specify the brand and model number of the product offered in his/her bid. Bids not specifying brand and model number shall be considered as offering the exact product specified.

Bidder proposing an equivalent brand or model should submit with the bid information (such as illustrations, descriptive literature, technical data) sufficient for the University to evaluate quality, suitability, and compliance with the specifications of the bid. Failure to submit such information may cause bid to be rejected.

3. **BID OPENING:** Bidders may attend the bid opening, but no information or opinions concerning the ultimate contract award will be given at the bid opening or during the evaluation process. Bids may be examined seventy-two (72) hours after request is made. Information pertaining to completed files may be secured by visit the University Purchasing Office during normal working hours.

A complete record of all bids is kept on file in this office subject to the inspection of any citizen. Every courtesy will be afforded any citizen who is interested in investigating, for any purpose, the record(s) of University of Louisiana at Lafayette purchases.

4. **AWARD OF CONTRACT:** The award of all contracts will be made in conformity with the requirements of the State Statute. The contract shall be awarded with reasonable promptness by written notice to the lowest responsive and responsible bidder whose bid meets the requirements and criteria set forth in the proposals.

The University of Louisiana at Lafayette reserves the right to reject any and all bids.

Page 2, Instructions to Bidders and General Conditions

The University assumes the right to increase, reduce, or completely eliminate entire item or items from the quotation after an analysis of the bids. The University also reserves the right to award this proposal on an individual item basis, a combination of items basis, or as a total package to one (1) vendor, whichever is in the best interest of the University.

5. **TERMS:** Unless otherwise specified by the University in the proposal, bid prices must be complete, including transportation, prepaid by bidder to destination. Bids other than FOB destination may be rejected.

Notwithstanding bid response, terms of payment shall be at least "Net 30 Days". Discounts offered for payment in less than thirty (30) days WILL NOT be considered in making an award. On open-ended requirement contracts, discounts will be accepted, but WILL NOT be considered in making an award. Bids containing "payment in advance" or "COD" requirements may be rejected.

6. **EQUAL EMPLOYMENT:** Contractor agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, disabilities or because of an individual's sexual orientation.

7. **INSURANCE:** The contractor shall carry and maintain Workmen's Compensation and Public Liability and Property Damage Insurance in accordance with the statutes and laws of the State of Louisiana, and he/she shall furnish the Owner with satisfactory proof of carriage of the insurance required.

8. **DEBRIS, CLEANING UP, ETC:** The contractor as directed by the Owner during the progress of the work shall remove all resultant dirt and debris and shall properly dispose of same. Upon completion of the service, he/she shall remove all equipment, unused material and debris and shall leave the premises in a clean and first-class condition.

9. **ASBESTOS:** No new material or product may be installed on this project which contains ANY amount of asbestos material. This statement takes precedence over any other product or material specification within these bid documents.

10. **PAYMENTS:** When a contract is in place final payment on account of this agreement will not be made until the expiration of forty-five (45) days following recordation of a Certificate of Substantial Completion and Resolution of Acceptance in the Office of the Clerk of Court, as required by State Statutes, and after such period said final payment will be made upon receipt by the Owner of a certificate from the Office of the Clerk of Court to the effect that no labor or material liens have been filed against the work.

11. **CANCELLATION OF CONTRACT:** The University has the right to cancel any contract, in accordance with Purchasing Rules and Regulations, for cause, including but not limited to the following: (1) Failure to deliver within the time specified in the contract; (2) Failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition; (3) Misrepresentation by the Contractor; (4) Fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the state; (5) Conflict of contract provisions with constitutional or statutory provisions of state or federal law; (6) Any other breach of contract.

12. **SIGNATURE AUTHORITY:** In accordance with L.R.S.38:2212 (A)(1)(C) or 38:2212(O), the person signing the bid must be:

- A. A current corporate officer, partnership member or other individual specifically authorized to submit a bid as reflected in the appropriate records on file with the Secretary of State; or
- B. An individual authorized to bind the vendor as reflected by an accompanying corporate resolution, certificate or affidavit.

By signing the bid, the bidder certifies compliance with the above.

FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SUPERVISION, PERMITS, ETC. NECESSARY TO REPLACE CHILLERS AT BUILDING 34 AT THE NEW IBERIA RESEARCH CENTER, LOCATED ON THE UNIVERSITY OF LOUISIANA AT LAFAYETTE CAMPUS, NEW IBERIA, LOUISIANA, AS SHOWN ON THESE SPECIFICATIONS.....

SCOPE OF WORK

- 1) Replace one or two chiller units at Building 34 at the New Iberia Research Center.

DUE TO THE IMPORTANCE OF THE SCHEDULE, LIQUIDATED DAMAGES IN THE AMOUNT OF FIVE HUNDRED DOLLARS (\$500.00) PER DAY WILL BE ASSESSED FOR EVERY CALENDAR DAY THAT THIS PROJECT IS NOT COMPLETE BEYOND NINETY (90) CALENDAR DAYS OF THE NOTICE TO PROCEED.

Each bidder MUST accompany his/her proposal with a bid security for five percent (5%) of the total maximum amount of his/her bid. The bid security shall be drawn in favor of the University of Louisiana at Lafayette and SHALL be in the form of a Bid Bond (Insurance Company), Bank Money Order, Certified Check or Cashier's Check. It shall become the property of the Owner in the event the contract and any performance bond are not executed within the time set forth. Bid bond shall be written by a surety or insurance company currently on the US Department of the Treasury Financial Management Service List of Approved Bonding Companies which is published annually in the Federal Register, or by a Louisiana domiciled insurance company with at least an "A-" Rating in the latest printing of the AM Best's Key Rating Guide to write individual bonds up to ten percent (10%) of policyholders' surplus as shown in the AM Best's Key Rating Guide.

Successful bidder WILL BE required to execute and deliver within ten (10) days of notification, a satisfactory performance bond and payment bond in the amount of one hundred percent (100%) of the contract price. Performance Bond, with Power of Attorney, shall be secured by a surety or insurance company currently on the US Department of the Treasury Financial Management Service List of Approved Bonding Companies, and in accordance with restrictions set by them or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds. In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana. Also, to be provided at the same time is a Labor and Materials payment Bond in an amount equal to one hundred percent (100%) of the contract amount.

Contractors or contracting firms submitting bids in the amount of \$10,000.00 or more shall show their license number on the front of the sealed envelope in which their bid is enclosed. Bids in the amount of \$10,000.00 or more, not submitted in accordance with this requirement, shall be rejected and shall not be read. (Revised dollar amount according to ACT 725.) Bids shall be accepted from Contractors who are licensed under L.A. R.S. 37:2150-2163 in a classification such as: **Mechanical Work**. Additional information relative to licensing may be obtained from the Louisiana State Licensing Board for Contractors, Baton Rouge, Louisiana.

In making this bid, each bidder represents that: They have read and understand the bid documents and the bid is made in accordance herewith, and the bid is based upon the specifications described in the bid documents without exception.

It is the responsibility of the prospective bidder to visit and examine jobsite, take measurements to his/her own satisfaction and determine conditions under which work is to be done. Owner will not accept responsibility for conditions which careful examination of premises would have shown existed.

To visit jobsite and for further information, prospective bidder is to contact Ms. Roxanne Jones-Jenkins, 337-482-0301.

A pre-bid meeting will be held at 9:30am on March 23, 2010 at Ackal Hall Auditorium, New Iberia Research Center, New Iberia, LA, at which time details of plans and specifications will be discussed.

GENERAL SPECIFICATIONS

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

This contract shall be governed by AIA Document A201 - General Conditions of the Contract for Construction, Fourteenth Edition, 1987. Contractors may review an original document on file in the UL Lafayette Physical Plant Office, or may write the American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006, to purchase an original A201 Document.

GENERAL REQUIREMENTS

The Contractor shall furnish and install all labor and material necessary to provide and install the complete portion of this contract, including all materials and equipment as shown on the plans. It is the intention of these specifications that all systems be furnished complete with whatever necessary items are required to produce a satisfactory installation in a working order. The Contractor shall be responsible for bringing to the attention of the Owner any shortcomings of the design, or thereby, shall be responsible in full to meet the conditions set forth, that being, the system is to be in a satisfactory working order.

All material shall be installed in accordance with the instructions of the manufacturers. The work shall be done in strict compliance with state and local ordinances governing this class of work. The prospective bidder shall visit the job site and become familiar with all existing conditions found at the site. The Contractor shall become acquainted with all existing factors and conditions which affect the work. Failure to do so shall not relieve meeting the responsibility to install the work correctly.

The Contractor shall protect the entire installation from injury on the project until final acceptance. Failure to do so shall be sufficient cause for the Agent to reject any work.

DEFINITIONS

Agent - The University's representative in the New Iberia Research Center who is referred to throughout these documents as singular in number.

Contractor - The person who contracts with UL Lafayette to perform the work as called for on these documents who is referred to as singular in number.

Owner - The University of Louisiana at Lafayette (UL Lafayette)

CONSTRUCTION FORCE

The Contractor shall provide and maintain in full operation at all times during the performance of the contract a sufficient work crew to execute the work with dispatch. The Contractor shall provide a full time superintendent who shall be on the job during all working periods.

The Contractor shall be responsible for maintenance and repair of all equipment installed by him which fails due to substandard workmanship.

APPROVALS FOR CHANGE

At no time shall the Contractor deviate from the intent of the drawings or these specifications unless these deviations are approved in writing by the Agent. All substitutions must be received by the agent at least seven (7) working days prior to the date for the receipt of bids. Each request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cut sheets, performance and test data, and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. It shall be the responsibility of the proposer to include in his proposal all changes required of the contract documents if the proposed product is used. Prior approval is given contingent upon supplier being responsible for any costs which may be necessary to modify the space or facilities needed to accommodate the materials and equipment approved.

FAMILIARITY WITH CONDITIONS

Prior to the submission of the bid proposal, the Prospective Bidder shall make and shall be deemed to have made a careful examination of the project site, the plans, and specifications. The Prospective Bidder shall become informed as to the location and nature of the proposed construction, the kind and character of terrain to be encountered, the kind of facilities required before and during the construction of the project, general local conditions and all other matters that may affect the cost and the time of completion of the project.

CODES AND PERMITS

Said work shall comply with all local codes and ordinances.

DEQ NOTIFICATION

The Contractor shall be responsible for the proper notification of the Department of Environmental Quality whenever demolition work is to be performed. Copies of the DEQ Notification Form AAC-2 and any additional correspondence with DEQ shall be copied to the University.

STANDARDS

All materials furnished under this contract shall be designed, constructed and rated in accordance with the latest applicable standards, and shall pass tests as recommended therein.

WORKMANSHIP AND MATERIALS

The workmanship shall conform to the best accepted construction practice. Should it become evident that during the course of construction that the items indicated on the plans, are for any reason undesirable, the Contractor shall immediately bring the situation to the attention of the Agent for a decision. The Contractor shall be responsible for installing the proper materials as described by the drawings and specifications.

All materials furnished for this project shall be new, undamaged, and bear the label of the Underwriters' Laboratories, Inc. Deliver materials in manufacturer's original package and store on skids so that the materials are off the ground, and so that product labels are exposed for easy inspection.

The Bidder shall base the proposal on materials herein specified. Reference to specific manufacturers or trade names is not intended to limit or indicate preference to specific manufacturers, but to indicate a standard of quality. Written approval from the Agent is required on all substitutions prior to installations.

GUARANTEE

The Contractor shall guarantee new materials and workmanship for a minimum of one (1) full year after formal acceptance of the project. The Contractor will replace defective material and repair all workmanship defects promptly, and absorb all costs.

This provision shall not override any other warranties that are specified herein.

PRIOR APPROVALS

The Contractor is required to install the exact materials specified in these documents, unless prior approval is given from the agent. Contractors requesting prior approval on an item must submit product information for evaluation to the agent at least seven (7) working days prior to the bid opening. Products submitted less than seven (7) working days prior to the bid opening will not be considered for prior approval.

SUBMITTALS

The Contractor shall submit samples of the materials called for in the section titled "Detailed Specifications". The Agent's approval of samples shall not relieve the Contractor from the responsibility of incorrectly figured dimensions or any other errors that may be contained in these drawings. The omission from the samples, or specifications, even though approved by the Agent, shall not relieve the Contractor from furnishing and erecting same.

The contractor shall be responsible to meet specifications, and the intent of the specifications. Deviation from the specifications in any form, whether reviewed by the Agent in the shop drawings or not, shall imply the Contractor is intending to present a substitution to the materials specified. The Contractor shall give specific written notice of each variation that the shop drawings may have from the requirements of the specifications, and, in addition, shall cause a specific notation (in a very clear manner) to be made on each shop drawing for review of each variation.

CAMPUS SAFETY POLICY

Contractor shall adhere to the campus safety policy. Information regarding campus safety can be found on the UL Lafayette website at: <http://www.louisiana.edu/ehs>

LOUISIANA ONE CALL

UL Lafayette is a member in the Louisiana One Call system. At least 72 hours before digging anywhere on UL Lafayette property the contractor **must** call 1-800-272-3020 to verify the location of utilities.

EXISTING LANDSCAPING

Contractor is liable for any damages caused to the existing landscaping. All landscaping must be protected from root compaction and other physical damage. Contractor **must** provide three foot high orange construction fencing around the drip line of all trees within the construction site.

ASBESTOS

The contractor **will not** be required to interface with any asbestos containing material (ACM) during this project. The State of Louisiana has conducted an asbestos survey of all buildings on the UL Lafayette campus. The results of the survey are compiled in management plans for each building. The management plans were assembled according to the requirements set forth in the Department of Environmental Quality Required Elements Index. These plans are available for review to anyone interested in the results. The plans are kept on file in the Reserve Reading Room of Edith Garland Dupre' Library.

COORDINATION OF WORK

The Contractor shall inform the Agent each day of his work location before proceeding to work, and each time the Contractor moves into a different area.

PAYMENT

The Contractor may invoice the Owner for work performed on a monthly basis. The work performed shall meet the approval of UL Lafayette. UL Lafayette shall process payment after verification of the invoice.

On projects where a performance bond is specified, the University will withhold ten percent (10%) retainage from all payments for completed work. The retainage will be released to the contractor according to the procedures set forth in the "INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS", section 10.

FINAL PAYMENT WILL NOT BE ISSUED UNTIL ALL UNIVERSITY KEYS HAVE BEEN RETURNED TO THE OWNER.

CLEAN-UP

The Contractor is responsible for the clean-up and disposal of all trash and construction debris relating to this project. University dumpsters shall **not** be used for the disposal of debris. Should the Contractor dispose of any debris into University facilities, the cost of removal will be deducted from the University's final payment under this contract.

INSURANCE

The Contractor shall carry and maintain Workmen's Compensation and Public Liability and Property Damage Insurance in accordance with the statutes and laws of the State of Louisiana, and he/she shall furnish the Owner with satisfactory proof of carriage of the insurance required.

INDEMNIFICATION

The Contractor will indemnify and hold harmless the Owner and all of their agents and employees from and against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from operations under the Contract Documents by the Contractor, and subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, which are caused in whole or in part by any error, omission, or act of any of them. If any and all claims against the Owner or any of their agents or employees by any employee of the Contractor, subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation of the Contractor under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under Workmen's Compensation laws.

SAFETY

The Contractor, its agents and employees shall practice safe work habits, make safe use of chemicals, and handle safety equipment utilized in the performance of this Contract. Additionally, the Contractor shall use equipment, signs, barriers, or other devices to protect persons or property, and shall avoid the usage of hazardous materials that are not essential to the performance of the work.

USE OF OWNERS FACILITIES

The Contractor, its agents and employees shall have the right to use only those facilities of the Owner that are necessary to perform services under the Contract and shall have no right of access to any other facility of the Owner.

PUBLICITY

The Contractor shall not in any way or in any form publicize or advertise in any manner the fact that the Contractor is providing services to the Owner without expressed written approval of the Owner for each item of advertising of publicity. However, nothing herein shall preclude the Contractor from listing the Owner on its routine client list for matters of reference.

UTILITY SERVICES

The Owner shall provide, at the Owner's expense, electric power and domestic cold water at existing outlets for the convenience of the Contractor.

INDEPENDENT CONTRACTOR

All of the Contractor's employees furnishing or performing services under this Contract shall be deemed employees solely of the Contractor and shall not be deemed for any purposes whatsoever employees or agents of, acting for or on behalf of, the Owner. The Contractor shall perform all services as an independent Contractor and shall discharge all its liabilities as such. No acts performed or representations made, whether oral or written, by the Contractor with respect to third parties shall be binding on the Owner.

DETAILED SPECIFICATIONS

Original chiller specifications are as follows:

Capacity (tons)	160Tons/Kw
Volts/Ph/Hz	460V/3Ph/60Hz Wye Delta
Refrigerant	R-22
LWT (deg F)	42°F
EWT	52°F
Pressure Drop	14'
Fouling Factor	0.00025
Flow Rate (gpm)	372gpm

Currently installed equipment:

YORK

Model: YCASO160EC46YFMBXXXXXXLXXXX42XXXXXXXXXXDAXXBXXXXXXXXNX

Serial: RFLM003346 and RFLM003347

PART 1

1.01 SUMMARY

Section includes design, performance criteria, refrigerants, controls, and installation requirements for air-cooled scroll compressor chillers.

1.02 REFERENCES

Comply with applicable Standards/Codes of ARI 550/590-2003, ANS/ASHRAE 15, ETL, c ETL, NEC, and OSHA as adopted by the State.

Units shall meet the efficiency standards of ASHRAE Standard 90.1, October 2001.

1.03 SUBMITTALS

- A. Submit shop drawings and product data in accordance with the specifications.
- B. Submittals shall include the following:
 - 1. Dimensioned plan and elevation view drawings, required clearance, and location of all field connections.
 - 2. Summary of all auxiliary utility requirements, such as electricity, water, compressed air, etc. Summary shall indicate quality and quantity of each required utility.
 - 3. Single-line schematic drawing of the power field hookup requirements, indicating all items that are furnished.
 - 4. Schematic diagram of control system indicating points for field interface/connection.
 - 5. Diagram shall fully delineate field and factory wiring.
 - 6. Certification of factory-run test of chiller unit signed by company officer.
 - 7. Installation manuals.

1.04 QUALITY ASSURANCE

- A. Qualification: Equipment manufacturer shall specialize in the manufacture of the products specified with a minimum of five years experience with the type of equipment.
- B. Regulatory Requirements: Comply with the codes and standards specified.
- C. Chiller manufacturing facility shall be ISO9002 Registered.

1.05 DELIVERY AND HANDLING

- A. Chiller shall be delivered to the job site completely assembled, charged with refrigerant and oil by the manufacturer.
- B. Comply with the manufacturer's instructions for rigging and handling equipment.

1.06 WARRANTY

The refrigeration equipment manufacturer's guarantee shall be for a period of one year from date of equipment start-up but not more than 18 months from shipment. The guarantee shall provide for repair or replacement due to failure by material and workmanship that prove defective within the above period, including refrigerant.

1.07 MAINTENANCE

Maintenance of the chillers shall be the responsibility of the Owner.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. (Approved only specifically equivalent to specifications).

2.02 UNIT DESCRIPTION

Provide and install as described factory-assembled, factory-charged, and factory-tested air-cooled scroll compressor packaged chillers in the quantity specified. Each chiller shall consist of hermetic multi-scroll compressor sets, direct expansion evaporator, air-cooled condenser section, microprocessor-based control system and all components necessary for controlled unit operation. 52°

2.03 DESIGN REQUIREMENTS

- A. General: Provide a complete scroll compressor packaged chiller as specified herein and as shown on the drawings. The unit shall be in accordance with the standards below, those referenced in section 1.02 and any local codes in effect.

Characteristics

Nominal Capacity	Volts/Ph/Hz	Refrig. Options	Flow Rate	Pressure Drop	EER	IPLV
160 Tons	460/3/60	410a 134a	372	<15'	>9.6	>14.5

Limits	EWT	LWT	High Ambient	Low Ambient
Operating	76°F Max.	40°-60°F	125°F	-10°F
Standby	100°F Max	100°F	130°F	
Normal	52°	42°		

Fouling Factor

Chilled Water Delta T	0.0001 (0.0176)		0.00025 (0.044)		0.00075 (0.132)		0.00175 (0.308)	
°F	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power
10	1.000	1.000	0.987	0.996	0.947	0.986	0.877	0.967

- B. Performance: The chiller shall be capable of stable operation to a minimum of 50 percent of full load and able to operate to at least 25 percent of full load without hot gas bypass. Factory installed hot gas bypass shall be included to allow unit operation to 10 percent of full load.

2.04 CHILLER COMPONENTS

- A. Compressor: The compressors shall be sealed hermetic scroll type units with crankcase oil heater and suction strainer. Compressor shall have a forced-feed lubrication system with reversible oil and oil charge. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type,

two-pole, with inherent thermal protection on all three phases and shall be mounted on rubber-in-shear (RIS) vibration isolator pads.

- B. Evaporator: The evaporator shall be a direct expansion shell-and-tube type with carbon steel shell and seamless high efficiency copper tubes roller expanded into a carbon steel tube sheet. Refrigerant heads shall be carbon steel with multi-pass baffles to provide oil return and be removable to permit access to the tubes from either end.

The evaporator shall have an internal water temperature sensing thermostat controlled electric resistance heater protecting against water freeze-up at ambient air temperatures to -20° F (-29° C). The fitted and glued-in-place insulation shall have a single layer K factor of at least 0.28 at 75°F (23° C), however, factory installed double layer insulation is required.

Each evaporator shall be designed, constructed, inspected, and stamped according to the requirements of the ASME Boiler and Pressure Vessel Code.

- C. Condenser: The condenser coils shall consist of 3/8 inch (10mm) seamless copper tubes mechanically bonded into plate-type fins. The aluminum fins shall have full drawn collars to completely cover the tubes and be pre-coated with a baked epoxy coating, such as HERESITE™ P-413, or ElectroFin™ with a minimum 5000 hour salt spray rating (ASTM B117-90). A subcooling coil shall be an integral part of the main condenser coil.

Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by weather protected TEAO direct-drive fan motors.

- D. Refrigerant Circuit: The refrigerant circuit shall include a refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve (no exceptions), thermal expansion valve, and insulated suction line.
- E. Construction: Unit casing and all structural members and rails shall be fabricated of steel and painted to meet ASTM B 117, 500-hour salt spray test. Vinyl-coated, welded-wire sections shall protect lower portion, or base, of unit.
- F. Electrical Control System: A centrally located weatherproof control panel with hinged tool-lockable access doors shall contain the field power connection points, control interlock terminals, and control system. Barrier panels or separate enclosures shall protect against accidental contact with line voltage when accessing the control system. Power and starting components shall include factory circuit breaker of fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection and unit power terminal blocks for connection to remote disconnect switch. Phase voltage monitor with under/over voltage and phase reversal protection shall be included. Terminals shall also be provided for power supply to the evaporator heater circuit.

- G. Control System: Current generation DDC microprocessor unit controller with a liquid crystal display shall provide the operating and protection functions. The controller shall take pre-emptive limiting action in case of high discharge pressure or low evaporator pressure. The applicable field installed communication module shall be included to interact with the building automation system.

The controller shall contain the following features as a minimum:

Equipment Protection

Shutdown Alarms- shall activate an alarm signal.

No evaporator water flow	Sensor failures
Low evaporator pressure	Evaporator freeze protection
High condenser pressure	Outside ambient temperature
Motor protection	Phase voltage protection

Limit Alarms

Condenser pressure stage down, unloads unit at high discharge pressures.
Low ambient lockout, shuts off unit at low ambient temperatures.
Low evaporator pressure hold, holds stage #1 until pressure rises.
Low evaporator pressure unload, shuts off one compressor.

Digital Inputs

Unit off switch
Remote start/stop
Flow switch
Motor protection

Digital Outputs

Shutdown alarm; field wired, activates on alarm condition, off when alarm is cleared.
Evaporator pump; field wired, starts pump when unit is set to start

Condenser fan control

The unit controller shall provide control of condenser fans based on compressor discharge pressure.

Building Automation System (BAS) Interface

Factory mounted DDC controller(s) shall support operation on a BACnet®, Modbus® or LonMark® network via one of the data link / physical layers listed below as specified by the successful Building Automation System (BAS) supplier.

- BACnet MS/TP master (Clause 9)
- BACnet IP, Annex J)
- BACnet ISO 8802-3, (Ethernet)
- LonMark FTT-10A. The unit controller shall be LonMark® certified.

The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.

For chillers communicating over a LonMark network, the corresponding LonMark eXternal File (XIF) shall be provided with the chiller submittal data.

All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed. BACnet communications shall conform to the BACnet protocol (ANSI/ASHRAE135-2001). A BACnet Protocol Implementation Conformance Statement (PICS) shall be provided along with the unit submittal.

2.05 OPTIONS AND ACCESSORIES

The Following options are to be included:

- Hot gas bypass on all circuits, for unit operation to 10 percent of full load.
- Low ambient, variable speed, head pressure control, for operation down to -10°F.
- High ambient temperature control, for operation up to 125°F ambient temperatures.
- Condenser coils shall be pre-coated with baked epoxy coating; such as Heresite P-413, or ElectroFin with a minimum +5000 hour salt spray rating (ASTM B117-90).
- Chilled water flow switch to avoid evaporator freeze-up under low or no-flow conditions.
- Double evaporator insulation
- Rubber-in-shear vibration isolators for field installation
- Vinyl-coated, welded-wire base guard for lower portion of unit
- Multi-point power connection to non-fused disconnect switches with through-the-door handles

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install in strict accordance with manufacturer's requirements, shop drawings, and contract documents.
- B. Adjust and level chiller in alignment on supports.
- C. Coordinate electrical installation with electrical sub-contractor.
- D. Coordinate controls with control contractor
- E. All exposed water piping shall be covered with fitted with glued-in-place insulation.

3.02 START UP

- A. Verify proper charge of refrigerant and oil.

- B. Provide testing and starting of machine, and instruct the Owner in its proper operation and maintenance.

TEST PROCEDURES

To assure that the equipment has been designed and built to the highest reliability and quality standards, the manufacturer and/or local representative shall be responsible for site tests.

Site Tests: An installation check, start-up, and system load test shall be performed by the manufacturer's local representative. The Agent shall be notified of the time and date of the site test. The tests shall include:

- Accessories that normally function while the unit is in stand-by shall be checked prior to initiating tests, to include leak and pressure tests of gas and Freon piping.
- Start-up under test mode to check for motor rotation direction, leaks, cooling air flow, movement during starting and stopping, vibration during running, normal line voltage and frequency, and phase rotation.
- First and second stage cooling.
- Current draw for major components; motors and compressors.
- Total current draw for unit.
- Automatic start-up by means of simulated sensor reading to test control system.

During testing the determination shall be made, by the Agent, whether any deterioration of pump capacity shall warrant pump replacement. Replacement pumps shall meet, or exceed, original building specifications, new chiller requirements and piping configurations. Currently installed pump assemblies are Armstrong Series 4030, base mount units; sized at 5x4x8 and 5x4x10.

Pump	GPM	Ft. Head	Pipe Size	Configuration	HP	RPM	Efficiency
Primary	360	35	6 inch	End-Suction	5	1750	78
Secondary	720	65	8 inch	End-Suction	15	1750	83

Base Bid

Replace chiller #1, air cooled packaged chiller, 160 tons.

Alternate No. 1

Replace chiller #2, air cooled packaged chiller, 160 tons.

Alternate No. 2

Additional 48 month warranty for compressors to include parts and labor. Vendor to submit details with bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: University of Louisiana at Lafayette
Purchasing Office, Martin Hall Room 123
104 University Circle
PO Box 40197
Lafayette, LA 70504
(Owner to provide name and address of owner)

BID FOR: New Iberia Research Center, Building 34,
Chiller Replacement

(Owner to provide name of project and other
identifying information)

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by:

University of Louisiana at Lafayette and dated: March 2010.
(Owner to provide name of entity preparing bidding documents.)

Bidder must acknowledge all addenda. The Bidder acknowledges receipt of the following ADDENDA: (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" but not alternates) the sum of:

_____ Dollars (\$_____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

ADD - Replace chiller #2 Dollars (\$_____)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

ADD - Additional 48 month warranty on Compressors, includes parts and labor. Dollars (\$_____)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

N/A Dollars (\$_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER**: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise, it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(0).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.